National Institute of Environmental Health Sciences

The influence of global climate change on the scientific foundations and applications of Environmental Toxicology and Chemistry: Introduction to a SETAC international workshop

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Abstract:

This is the first of seven papers resulting from a Society of Environmental Toxicology and Chemistry (SETAC) international workshop titled "The Influence of Global Climate Change on the Scientific Foundations and Applications of Environmental Toxicology and Chemistry." The workshop involved 36 scientists from 11 countries and was designed to answer the following question: How will global climate change influence the environmental impacts of chemicals and other stressors and the way we assess and manage them in the environment? While more detail is found in the complete series of articles, some key consensus points are as follows: (1) human actions (including mitigation of and adaptation to impacts of global climate change [GCC]) may have as much influence on the fate and distribution of chemical contaminants as does GCC, and modeled predictions should be interpreted cautiously; (2) climate change can affect the toxicity of chemicals, but chemicals can also affect how organisms acclimate to climate change; (3) effects of GCC may be slow, variable, and difficult to detect, though some populations and communities of high vulnerability may exhibit responses sooner and more dramatically than others; (4) future approaches to human and ecological risk assessments will need to incorporate multiple stressors and cumulative risks considering the wide spectrum of potential impacts stemming from GCC; and (5) baseline/reference conditions for estimating resource injury and restoration/rehabilitation will continually shift due to GCC and represent significant challenges to practitioners.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3601432

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Other Exposure

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Co-Benefit/Co–Harm (Adaption/Mitigation): ☑

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Methodology

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified